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AS AMENDED IN THE INTERNATIONAL APPLICATION

NATIONAL PHASE SUBMISSION

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Patent claims

1. An arrangement for determining a relative movement of a chassis and a vehicle body of a wheeled vehicle (20), said vehicle body being movably connected to the chassis, having
 - a measuring entity (1) which is arranged or can be arranged in the wheeled vehicle (20), wherein the measuring entity (1) is configured to measure three respectively perpendicular linear accelerations of the wheeled vehicle (20) and at least two rotational speeds, each relating to a rotational movement or a component of a rotational movement about a coordinate axis of the wheeled vehicle (20), wherein the at least two coordinate axes run perpendicularly to each other, and
 - an analysis entity (9) which is combined with the measuring entity (1) and is configured to determine a momentary movement position of the relative movement using the three linear accelerations and the at least two rotational speeds,
 - wherein the analysis entity (9) includes a calculating unit (11) which is configured to calculate a plurality of momentary movement positions using the at least two rotational speeds and the three linear accelerations, and
 - wherein each of the movement positions is a measure for a distance between the vehicle body and at least one wheel of the chassis.
2. The arrangement as claimed in claim 1, wherein the measuring entity (1) has acceleration sensors (31, 32, 33) for

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measuring the linear accelerations and rotational speed sensors (41, 42, 43) for measuring the rotational speeds, and wherein the acceleration sensors (31, 32, 33) and the rotational speed sensors are parts of a preprepared hardware unit (2) which is configured for installation in the wheeled vehicle (20).

3. The arrangement as claimed in claim 1 or 2, wherein the measuring entity (1) is configured such that the three linear accelerations can be measured as measured variables which are linearly independent of each other.
4. The arrangement as claimed in one of the claims 1 to 3, wherein the measuring entity (1) is configured such that the at least two coordinate axes run perpendicularly to each other as a pair in each case.
5. The arrangement as claimed in one of the claims 1 to 4, wherein the analysis entity (9) includes a calculating unit (11) which is configured to calculate the momentary movement position with reference to a spring suspension (40, 41, 43), in particular a spring suspension which is moderated, between at least one of the wheels (21, 22, 23, 24) of the wheeled vehicle (20) and a vehicle body (28).
6. A method for determining a relative movement of a chassis and a vehicle body of a wheeled vehicle (20), said vehicle body being movably connected to the chassis, wherein
 - three respectively perpendicular linear accelerations of

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the wheeled vehicle (20) and at least two rotational speeds, each relating to a rotational movement or a component of a rotational movement about a coordinate axis of the wheeled vehicle (20), are measured in the wheeled vehicle (20), wherein the at least two coordinate axes run perpendicularly to each other, and

- a momentary movement position of the relative movement is determined using the three linear accelerations and the at least two rotational speeds; wherein
- a plurality of momentary movement positions are calculated using the at least two rotational speeds and the three linear accelerations, and wherein
- each of the movement positions is a measure for a distance between the vehicle body and at least one wheel of the chassis.

7. The method as claimed in claim 6, wherein the linear accelerations are measured using acceleration sensors (31, 32, 33) and the rotational speeds are measured using rotational speed sensors (41, 42, 43), and wherein the acceleration sensors (31, 32, 33) and the rotational speed sensors are parts of a preprepared hardware unit (1) which is arranged in the wheeled vehicle (20).

8. The method as claimed in claim 6 or 7, wherein the three linear accelerations are measured as measured variables which are linearly independent of each other.

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9. The method as claimed in one of the claims 6 to 8, wherein the at least two coordinate axes of the rotational speeds run perpendicularly to each other as a pair in each case.
10. The method as claimed in one of the claims 6 to 9, wherein the momentary movement position is calculated with reference to a spring suspension (40, 41, 43), in particular a spring suspension which is moderated, between at least one of the wheels (21, 22, 23, 24) of the wheeled vehicle (20) and a vehicle body (28).